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ABSTRACT

The purpose of this study was to discover if there are any differences in the teaching effectiveness skills of the most and least effective instructors (Teaching Assistants) on the first day of class. Twenty student participants were asked to analyze audio tapes of the first day of class of six instructors that had been rated highly effective and six instructors that had been rated highly ineffective by an earlier set of student participants. An experienced teacher trainer (the researcher) also analyzed the audio tapes. The student comments regarding the audio tapes were tallied for frequency, sorted as either positive or negative and then sorted into meaningful categories. Results indicated that students saw "Concern for Students" as playing a strong role in their positive perceptions of teaching effectiveness, and lack of "Communicative Competence" played a strong role in developing negative impressions of an instructor. Results of the researcher's analysis of the tape recordings amplified the result that the lack of "Communicative Competence" played a strong role in negative evaluations. (Contains 9 tables of data.) (RS)

A Comparative Analysis Of The Instructional Behaviors Used By Highly Effective And Highly Ineffective Instructors On The First Day Of Class

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Abstract

The purpose of this study was to discover if there are any differences in the teaching effectiveness skills of the most and least effective instructors on the first day of class. Twenty student participants were asked to analyze audio tapes of the first day of class of six instructors that had been rated highly effective and six instructors that had been rated highly ineffective by an earlier set of student participants. An experienced teacher trainer also analyzed the audio tapes to find patterns in the instructional behaviors of the differently rated instructors. Students were asked to listen to the tape and as they listened, to stop the tape each time they came to a behavior by the instructor they believed had either a positive or negative impact on their impression of the instructor. Each time they stopped the audio tape at a clearly identifiable new behavior they were to note what was happening at the moment they stopped the tape and explain how the instructor's behavior at this point had impacted their impression m a positive or negative way (the students had not been told in advance how the instructor was ranked). A teacher trainer also analyzed the tapes in a similar fashion. The student comments regarding the audio tapes were tallied for frequency, sorted as either positive or negative and then sorted into meaningful categories. The six most effective TAs received 195 positive student comments Almost two-thirds (122) of those comments were related to Concern for Students and the remainder (68) of the positive comments were related to Communicative Competence. The most effective TAs also received 77 negative comments. Approximately two-thirds (48) of those comments were related to Communicative Competence and the remainder (25) of the negative comments were related to Concern for Students. The six least effective TAs received 95 positive student comments. More than two-thirds (65) of those comments were related to Concern for Students and the remainder (29) of the comments were related to Communicative Competence. The least effective TAs received 81 negative comments Almost three-fourths (60) of those comments were related to Communicative Competence and the remainder (20) of the negative comments were related to Concern for Students. Based on the teacher trainer s analysis, the six most effective TAs received 323 positive researcher comments. Almost half (153) of those comments were related to Communicative Competence and the remainder (146) of the positive comments were related to Concern for Students The most effective TAs also received 22 negative comments. Approximately three-fourths (17) of those comments were related to Communicative Competence and the remainder (5) of the negative comments were related to Concern for Students. The six least effective TAs received 227 positive researcher comments. More than half (128)of those comments were related to Communicative Competence and the remainder (85) of the comments were related to Concern for Students. The least effective TAs also received 52 negative comments. The vast majority (47) of those comments were related to Communicative Competence and the remainder (5) of the negative comments were related to Concern for Students.

A comparative analysis of the instructional behaviors used by highly effective and highly ineffective instructors on the first day of class

Teachers throughout the world enter classrooms every day and attempt to create an environment that maximizes student learning...social scientists still are not sure what to tell teachers who question how they can become more effective in the classroom. As a matter of fact, it has only been within the last 20 years that educational researchers were willing to agree that the classroom behavior of individual teachers does have significant impact upon students. The question remains, however, as to exactly which classroom behaviors... can be said to be positively related to effective teaching. (Nussbaum, 1992, p. 167)

Although the first class session is generally seen as important because it can have lasting effects on the rest of the semester in terms of climate, organization, and control established by instructors (Beck & Lambert, 1977; Brooks & Hawke, 1987-88; Moskowitz & Hayman, 1976), little research has explored which instructional attributes students regard as most effective on the first day. Instructional communication scholars have been examining the role that communication plays in the educational environment for some time now (Robinson, 1993), but their scholarship regarding the first-day phenomenon has been quite limited. As Shulman (1986) points out, we conduct research in a field to make sense of it, to get smarter about it, and to learn how to perform more adeptly within it. Because an instructor's first interaction with students can determine the success of those to follow, it is important that we explore what happens in a classroom setting before offering prescriptions on how to best handle situations in that setting (Friedrich, Cawyer, & Storey, 1993).

A multi-part research project was undertaken to begin to discover what instructor's behaviors leave a positive or negative impact on students on the first day of class so that instructors may better prepare for and more effectively deliver their first class sessions. The first phases of the project (survey analysis) has been reported in detail elsewhere (Hayward, 2000), but will be briefly summarized below. It will be followed by a thorough treatment of the final phase (audio tape analysis) of the project.

For the first two phases of the project, students in 29 classes in community health, economics, and mathematics at the University of Illinois were surveyed at the end of the first day of instruction to determine the initial impressions they formed of their instructors. These 800 students completed a multi-part questionnaire. The first portion of the questionnaire prompted students to write down their first impressions of the course and their instructor

and explain the basis for those judgments.

Additional questions were pursued by the next portion of the survey which asked students to rate their teaching assistant (TA) on global teacher and global course effectiveness items using Likert scales. They were subsequently asked to rate their TA on a variety of instructional attributes, also using Likert scales. Each of the 29 classes was also audio taped.

An analysis of the 2,810 instructor-related phrases from the student open ended survey responses was conducted. Responses related to an instructor's Communicative Competence (for example, "TA didn't stop to check student understanding") were most frequently mentioned (50%). The remaining statements were divided between four other categories: Concern for Students (for example, "seems to want us to like the class") (24%), General Affective Reactions (for example, "sort of goofy") (14%), Ambiguous Regarding Inference (for example, "based on the way he was today") (6%), and Knowledge of Subject Matter (for example, "well-educated") (6%).

A principal components factor analysis with an equamax rotation of the instructional attributes the students rated on Likert scales (excluding the global teaching item) revealed four basic factors which accounted for 64% of the cumulative variance. These four factors were identified as Concern for Students, Communicative Competence, Expectations, and Benefit.

Stepwise regression analyses of the factor scores from the factor analysis, using the global teaching effectiveness rating as criterion variables revealed that the four-factor model accounted for 58% of the variance explained for the teaching effectiveness variable. The β values indicate the relative influence of the entered factors on the teaching effectiveness variable: Communicative Competence (β=.57), Concern for Students (β=.34), Expectations (β=.31), and Benefit (β=.23).

These first two phases of the project began to shed light on student impressions of instructional effectiveness on the first day of class. However, to better isolate more precisely the specific behaviors that helped shape initial impressions of the instructor, an analysis was undertaken using the audio tapes of the most effective and least effective teaching assistants from the class sessions described above. The following research questions were formulated to give direction to the audio tape analysis:

RQ1: What differences are there in the teaching effectiveness skills of the most and least effective instructors on the first day of class when students are asked specifically to focus on effective and ineffective instructor's

behaviors?

RQ2: Will an experienced teacher trainer uncover the same differences between the teaching effectiveness skills of the most and least effective instructors that a group of students noted?

Part I: Student Descriptive Analysis of Most and Least Effective TAs

Method

Participants

The 20 participants used for this portion of the research project were solicited from two sections of a 100-level basic hybrid communication course and one section of a 200-level interpersonal communication course at Lake Superior State University. Lake Superior State University is a Midwestern teaching institution that enrolls approximately 3,500 undergraduate students. It was announced in these classes that student volunteers were needed for an audio tape analysis research project and that each participating student would receive extra credit points for their participation in the study. Fourteen of the twenty participants were volunteers from the hybrid course and six were from the interpersonal course. Three of the students were freshmen, two were sophomores, six were juniors, and nine were seniors. Fifteen of the participants were female and five were male. Of the 20 participants, 2 indicated they had previously taken a community health course that dealt with issues of drug use and abuse; 5 indicated they had previously taken an economics statistics course; and 8 indicated they had taken a mathematics course in calculus.

Materials and Procedures

Twelve of the twenty-nine audio tapes were chosen for this portion of the study. The audio tapes selected represented the two highest rated sections in community health, economics, and mathematics; and the two lowest rated sections in community health, economics, and mathematics. The section rankings were drawn from the ratings of overall teaching effectiveness of each TA. Of the six most effective TAs, three were female and three were male. One of the six most effective TAs spoke with accented speech (non-native to the United States of America). Of the lowest rated six TAs, three were female and three were male. Three of the six lowest rated TAs spoke with accented speech (see Table 1 for a detailed list of the highest and lowest ranked sections).

Each of the 12 audio tapes was analyzed by 5 students, necessitating 20 participants each analyzing 3 audio tapes (1 community health, 1 economics, 1 mathematics). Each participant listened to one tape from each type of class, yet no participant analyzed more than two lowest-rated or two highest-rated audio tapes. Each student listened to a

unique grouping of the tapes.

Each participant met with the researcher and was given a packet to work on individually which contained their three designated audio tapes and three instruction sheets. At this point, students were also asked to sign a consent form which assured them that their participation in the project was voluntary and their comments would remain anonymous. The participant was told the audio tapes were from first-day class sessions and was not given any indication of the ranking of the audio tapes. An instruction sheet was to be filled out for each tape analyzed. The instruction sheet asked the participant to indicate their year in school (freshman, sophomore, junior, senior, graduate student) and gender. They were also asked to indicate if they had ever taken a course like the one featured in the audio tape they were about to analyze (community health, economics, or mathematics).

Instructions for the analysis of the audio tapes were included on the sheets. Students were asked to listen to the tape and as they listened to the audio tape, to stop the tape each time they came to a behavior by the instructor that they believed had either a positive or negative impact on their impression. Each time they stopped the audio tape at a clearly identifiable new behavior they were to note what was happening at the moment they stopped the tape and explain how the instructor's behavior at this point had impacted their impression in a positive or negative way. Once the participant analyzed all of the tapes, they were to return them with the instruction sheets and their comments to the researcher.

Coding the Data

Positive versus negative comments. The participants' comments about the audio tapes were coded in several steps. First, the 475 responses from the 60 tape analyses were sorted into three categories: positive comments, negative comments, and ambiguous comments. The positive and negative comments were comments the participants distinctly labeled as instructor's behaviors they noted as being effective or instructor's behaviors they noted as being ineffective.

Examples of behaviors participants indicated as positive were: "When he was done talking about gen(eral) info(rmation), he asked if there were questions. Thought that was good.," "Good to mention accent and ask if her students understand, if not just ask her to repeat things, positive., "Very organized explaining course outline, has exam dates set up and shows he has planned course out to fit into these dates."

Examples of behaviors participants indicated as negative were: "'Don't call in the morning, please!' She says not to call because she is not very awake and may not remember what the discussion was about. Negative. What if a

student had an emergency? Couldn't they just leave a message?," "Told them what book not to buy that was listed as a book for the course. This is the ultimate gotcha. I LOVE when instructors list books for the course that aren't used. If it's not going to be used don't list as a book for the course., "'This is a simple math problem,' she said to the students after a lengthy explanation. I think this is a negative statement to make because it may not be 'simple' to a student or students and they may begin to feel inadequate and discouraged about their mathematical abilities."

Even though the participants were instructed to label each instructor's behavior they noted as positive or negative, in 27 of the 475 comments, such a label was not provided. So as not to impose the researcher's judgment on the comments that weren't clearly labeled by students, these comments were considered "ambiguous" for the purpose of this study. Since these 27 ambiguous comments did not specifically address positive or negative instructor's behaviors, they were removed from the data set. This left a total of 448 positive and negative comments for analysis.

Main categories. The final step in the coding process was to place the 448 comments into meaningful categories for analysis. The coding manual developed to analyze the open-ended data in the first phase of the project was utilized for this portion of the project for consistency. The five main categories from the coding manual were: Knowledge of Subject Matter, Communication Competence, Concern for Students, General Affective Reactions, and Ambiguous Regarding Inference.

The first category, Knowledge of Subject Matter, included comments pertaining to an instructor's knowledge and intellectual background in the subject matter to be taught. Examples from the audio tape analyses of responses regarding Knowledge of Subject Matter were: "She had a lot of knowledge of the subject she was teaching.," "Seems quite knowledgeable in the subject.," and "Talking about differentiation. Positive. Is very knowledgeable about calculus. Is able to keep going without ever having to pause every few seconds to look in the book to see if he is doing it correctly[1]."

The second category, Communicative Competence, included comments students made pertaining to their instructor's overall speaking ability and verbal and nonverbal communication skills. This category also addressed the instructor's ability to adapt material to the students' knowledge level, level of clarity, organizational skills, and ability to generate interest. Comments such as, "While he was talking about models smoking, it was hard to hear what he was saying because he was mumbling.," "This is the type of professor I like because he brings the real world into the class. Of course this is kind of a real world course, but still he uses great examples and tells you things you would never

know about a certain drug.," and "Negative. Didn't have office hours yet. Disorganized" were included.

The third category, Concern for Students, included comments pertaining to an instructor's level of respect for students as well as immediacy and interactive skills. Also included were comments referring to the TA's perceived level of flexibility. Typical comments in this category were: "She explains her office hours and there are a lot of them. She really wants to be there for students. She really encourages them to come and see her and to work out problems early on so they don't become big problems. She likes teaching and wants interaction with the students. A positive statement because the students know she is there to help.," "He stated that the first chapter he would go over very quickly and if you did not understand something you should see him after class. This was not nice in my opinion. He just shut me down from asking any questions. I would be scared.," "Made conversation with them about himself. Students want to know what their teacher is going to be like. They want to make sure you're (teacher) down to earth and normal."

The fourth category, General Affective Reactions, was developed to include global affective reactions of character, personality and competence. Comments that were coded under this category included: "And she makes the statement that it's only her third time teaching the class. My first impression is that she's not a take charge kind of person. This is negative.," and "She was ineffective in getting people back to their seats. Took about two minutes. Lack of control over students - she only asked the students once to start heading back to their seats and never asked again, therefore she had to wait."

The fifth category, Ambiguous Regarding Inference, was included to encompass vague responses related to an instructor's experience and appearance. Comments from this category were "woman teacher" and "man teacher."

Once all data were categorized into main categories by the researcher, a research assistant coded 10% (every 10th response) with the use of the coding manual to check for reliability. Reliability was achieved at a level of 81% exact agreement.

Results

Research Question One sought to find what differences there are in the teaching effectiveness skills of the most and least effective instructors on the first day of class when students are asked specifically to focus on effective and ineffective instructor's behaviors. The 448 comments regarding the audio tapes were tallied for frequency, sorted as either positive or negative, and then sorted into meaningful categories. Overall, students tended to provide more

comments for the 6 most effective TAs (272) than for the 6 least effective TAs (176). Of the 448 comments, more positive responses were recorded overall (290) than negative responses (158). The data were divided into two segments for further analysis to better highlight the behavioral differences between the TAs. The first segment compared the most frequent categories of positive and negative comments regarding the six most effective TAs and the six least effective TAs. The second segment compared the categories of positive and negative comments of the single highest rated and the single lowest rated TAs of the 12.

Most frequent categories of positive comments regarding most effective TAs

There were 195 positive comments regarding the most effective TAs. Of these, the most frequent main category commented on was Concern for Students (63%, 122 responses) (see Table 2). Communicative Competence comments accounted for 35% (68) of the responses and Knowledge of Subject Matter comments accounted for 3% (5) of the responses. There were no positive comments for most effective TAs listed under the General Affective Reactions or Ambiguous Regarding Inference categories.

Most frequent categories of positive comments regarding least effective TAs

There were 95 positive comments regarding the least effective TAs. Of these, the most frequent main category commented on was Concern for Students (68%, 65) (see Table 2). Communicative Competence comments accounted for 31% (29) of the responses and Knowledge of Subject Matter for 1% (1) of the responses. There were no positive comments for least effective TAs listed under the General Affective Reactions or Ambiguous Regarding Inference categories.

Most frequent categories of negative comments regarding most effective TAs

There were 77 negative comments regarding the most effective TAs. Of these, the most frequent main category commented on was Communicative Competence (62%, 48) (see Table 3). Concern for Students comments accounted for 32% (25) of the responses, General Affective Reactions for 4% (3) of the responses, and Ambiguous Regarding Inference for 1% (1) of the responses. There were no negative comments for most effective TAs listed under the Knowledge of Subject Matter category.

Most frequent categories of negative comments regarding least effective TAs

There were 81 negative comments regarding the least effective TAs. Of these, the most frequent main category commented on was Communicative Competence (74%, 60) (see Table 3). Concern for Students accounted

for 25% (20) of the responses and General Affective Reactions for 1% (1) of the responses. There were no negative comments for least effective TAs listed under the Knowledge of Subject Matter or Ambiguous Regarding Inference categories.

Comparison of categories of positive comments of the single highest and single lowest rated TAs

Both the single highest and single lowest rated TAs of the 12 were mathematics TAs, so it seemed valuable to directly compare the types of comments they received regarding their instruction on the first day of class. The single highest rated TA of the 12 was a female with nonaccented speech (M=4.15, SD=.67) (see Table 4.1). The single lowest rated TA of the 12 was a male with accented speech (M=2.41, SD=.73).

The single highest rated TA received 46 positive comments (see Table 4). Of these 46 comments, the majority (72%, 33) were Concern for Student comments. The remainder of the comments (28%, 13) were focused on Communicative Competence. There were no positive comments for this TA under the categories of Knowledge of Subject Matter, General Affective Reactions, or Ambiguous Regarding Inference.

The single lowest rated TA received 15 positive comments (see Table 4). Of these 15 comments, 47% (7) fell under the Concern for Students category and 47% (7) fell under the Communicative Competence category. An additional 7% (1) of the responses were related to Knowledge of Subject Matter. There were no positive comments for this TA under the categories of General Affective Reactions or Ambiguous Regarding Inference.

Comparison of categories of negative comments of the single highest and single lowest rated TAs

The single highest rated TA received 6 negative comments (see Table 5). Of these 6 comments, the majority (83%, 5) were Communicative Competence comments. The remaining comments (17%, 1) was focused on Concern for Students. There were no negative comments for this TA under the categories of Knowledge of Subject Matter, General Affective Reactions, or Ambiguous Regarding Inference.

The single lowest rated TA received 13 negative comments (see Table 5). Of these 13 comments, 85% (11) fell under the Communicative Competence category and 15% (2) fell under the Concern for Students category. There were no negative comments for this TA under the categories of Knowledge of Subject Matter, General Affective Reactions, or Ambiguous Regarding Inference.

Discussion

In order to get a more precise idea of what instructor's behaviors make a difference in how an instructor is

rated on the first day of class, a comparison of the most and least effective community health, economics, and mathematics TAs identified in the survey analysis was conducted. In the first portion of this study, 20 students from Lake Superior State University listened to 12 University of Illinois audio tapes of the most and least effective TAs. Participants were asked to stop the audio tape any time they encountered an instructor's behavior they deemed positive or negative and to describe what was happening when they stopped the audio tape and explain why they felt that behavior was positive or negative. These 448 comments were then sorted into main categories.

Of the 448 comments, more comments were positive (65%, 290) than negative (35%, 158), and more comments were made about the most effective TAs (61%, 272) than the least effective TAs (39%, 176). The preponderance of positive comments may be related to the nature of commenting on effective and ineffective teaching behaviors. If a key reason an instructor is being perceived negatively is the fact that the instructor speaks too quietly to be heard well, that behavior will probably be commented on only once, even though that behavior would negatively permeate the entire class session. If, however, an effective instructor is mainly effective due to their use of student-related examples, a comment would likely be made each time the instructor incorporated an effective example. Thus, negative behaviors may only be commented on once, whereas positive behaviors may be commented on each time they occur.

The six most effective TAs received 195 positive student comments. Almost two-thirds (122) of those comments were related to Concern for Students and the remainder (68) of the positive comments were related to Communicative Competence[2]. The most effective TAs also received 77 negative comments. Approximately two-thirds (48) of those comments were related to Communicative Competence and the remainder (25) of the negative comments were related to Concern for Students.

The six least effective TAs received 95 positive student comments. More than two-thirds (65) of those comments were related to Concern for Students and the remainder (29) of the comments were related to Communicative Competence. The least effective TAs received 81 negative comments. Almost three-fourths (60) of those comments were related to Communicative Competence and the remainder (20) of the negative comments were related to Concern for Students.

Based on the results for both most and least effective TAs, it appears that students see Concern for Students as playing a strong role in their positive perceptions of teaching effectiveness. Concern for Students comments

accounted for approximately two-thirds of the positive comments for both most and least effective TAs, while Communicative Competence comments accounted for about one-third of the positive comments.

When analyzing the negative comments received by both most and least effective TAs, the distribution of comments was somewhat different than it was for the positive comments. Unlike the positive comments, the majority of negative comments for both most and least effective TAs fell under the Communicative Competence category. Approximately two-thirds of the negative comments made about most effective TAs were related to Communicative Competence and about one-third were related to Concern for Students. On the other hand, almost three-fourths of the negative comments made about least effective TAs were related to Communicative Competence and about one-fourth were related to Concern for Students. It is apparent by these results that lack of Communicative Competence plays a strong role in developing negative impressions of an instructor on the first day of class and that least effective instructors are exhibiting more negative Communicative Competence behaviors than the most effective instructors are.

Although it is clear that lack of Communicative Competence plays a strong role in developing these negative impressions, it should also be noted that the participants may have focused on Communicative Competence items more since the participants were students taking communication courses. The participant instruction packet did not mention communication skills and referred only to instructional behaviors. However, since the students were studying basic human communication concepts at the time they completed their analyses, they may have been more prone to zero in on instructor's behaviors that were connected to Communicative Competence.

The single highest rated TA received 46 positive student comments. Almost three-fourths (33) of those comments were related to Concern for Students and the remainder (13) of the comments were related to Communicative Competence. The single highest rated TA also received six negative comments. The majority (5) of those comments were related to Communicative Competence and the remainder (1) of the negative comments were related to Concern for Students.

The single lowest rated TA received 15 positive student comments. Seven of those comments were related to Concern for Students and seven of the comments were related to Communicative Competence. The single lowest rated TA also received 13 negative comments. The majority (11) of those comments were related to Communicative Competence and the remainder (2) of the negative comments were related to Concern for Students.

When comparing the comments made regarding the two mathematics TAs who received the highest and

lowest ratings out of the set of 12 TAs used for analysis, the single highest rated TA received more positive Concern for Student comments than Communicative Competence comments. Of the positive comments, the single lowest rated TA received the same amount of Concern for Students comments as Communicative Competence comments.

The comments connected to these two TAs can be compared to the positive comments attributed to all 12 of the TAs. When looking at all 12 TAs, Concern for Students plays the largest role in positive comments in connection with the most and least effective TAs. When comparing the positive comments of the single highest and single lowest rated, however, we see that positive Concern for Students comments weigh more heavily in students' comments regarding the single highest rated TA than they do for the single lowest rated TA.

The distribution of the negative comments made regarding the single highest and single lowest rated TAs was quite similar. Communicative Competence comments accounted for most of the negative comments the single highest rated TA received. Communicative Competence comments also accounted for most of the negative comments the single lowest rated TA received. Again, as in the analysis of all 12 TAs, lack of teaching effectiveness appears to be most related to lack of Communicative Competence.

It is important to note that when describing the behavior of the least effective TAs, students made more positive comments about the TAs' Concern for Students than they did negative comments about the TAs' lack of Communicative Competence. It appears, then, that Communicative Competence is sufficiently important to students that displaying Concern for Students cannot erase the negative impact of weakness in Communicative Competence.

Part II: Analysis by Researcher of Most and Least Effective TAs' Instructional Behaviors

Method

In order to obtain an expert's description of the instructional behaviors of the most and least effective class sections, an analysis of the 12 audio tapes used in Part I (above) was conducted by the researcher. The researcher's academic background is in instructional communication. The researcher also has experience as a TA trainer. In that role, the researcher has consulted with teaching assistants and visited their classrooms to assist them in analyzing their effective and ineffective instructional skills.

Procedures

As the students in the first part of the tape analysis did, the researcher listened to the 12 featured audio tapes of classroom instruction. However, in the case of the student descriptive analysis, the students were instructed to note

any teaching behaviors that struck them as effective or ineffective. The researcher, in order to provide a more complete analysis of the TAs, noted every clearly identifiable new behavior that seemed relevant to impression formation, even if the behavior had not stood out to the students who analyzed the audio tapes. In other words, the researcher created an "inventory" of relevant classroom behaviors demonstrated by each of the 12 TAs. As with the student analysis in Part I, the researcher stopped the audio tape at each relevant behavior, noted what was happening at the time the tape was stopped, and then wrote an evaluative comment on that behavior[3].

Coding the Data

Positive versus negative comments. The researcher's comments on the audio tapes were coded using steps similar to those used in the student tape analysis. First, the 662 responses from the 12 audio tape analyses were sorted into three categories: positive comments, negative comments, and ambiguous comments. The positive and negative comments were comments that were addressing clearly effective or clearly ineffective instructor's behaviors. The ambiguous category was used to sort comments that were not clearly positive or negative. Since these 38 ambiguous comments did not specifically address positive or negative instructor's behaviors, they were removed from the data set. This left a total of 624 positive and negative comments for analysis.

Examples of behaviors the researcher indicated as positive were: asking for student responses, reviewing what has taken place up to that point, giving an example when defining a term, and encouraging students to come to class. Examples of behaviors the researcher noted as negative were: handing out a syllabus that still needs to be updated, moving too quickly through material, using a sarcastic tone of voice, and forgetting until the end of the class period to collect information cards. Examples of ambiguous behaviors the researcher felt could be viewed as either positive or negative depending on the students' outlook were: having tentative office hours (shows flexibility, but also shows some lack of organization), giving a diagnostic test on the first day of class (shows a willingness to adapt to student skills, but also could be daunting for a student who was not mentally prepared to take a test on the first day), trailing off when in the middle of giving a tip to students (willingness to give helpful tip shows concern for students, however trailing off while giving explanation could prove to be confusing), and giving out a home phone number but asking students not to call unless it is an emergency (giving the number shows a level of openness to students, however, stressing the number should only be used for emergencies sends a mixed signal in terms of openness).

Main categories. The next step in the coding process was to place the 624 comments into meaningful

categories for analysis. As in the student tape analysis, the coding manual developed to analyze the open-ended data for an earlier portion of this multi-part project, was utilized for this portion of the project for consistency. The five main categories from the coding manual are: Knowledge of Subject Matter, Communication Competence, Concern for Students, General Affective Reactions, and Ambiguous Regarding Inference.

The first category, Knowledge of Subject Matter, included comments pertaining to an instructor's knowledge and intellectual background in the subject matter to be taught. Examples from the audio tape analyses of responses regarding Knowledge of Subject Matter were: works through a mathematical solution on the board, gives names of Greek symbols, instructor mentions he majored in economics and feels comfortable with class material, and explains how all three types of notations are actually the same.

The second category, Communicative Competence, included comments students made pertaining to their instructor's overall speaking ability and verbal and nonverbal communication skills. This category also addressed the instructor's ability to adapt material to the students' knowledge level, level of clarity, organizational skills, and ability to generate interest. Behaviors such as, explains how scientists might use functions for very important research, gives an example of how to narrow a topic down when describing the research paper assignment, summarizes student responses to move into a broader point, and speaks with a thick accent that impedes understanding.

The third category, Concern for Students, included comments pertaining to an instructor's level of respect for students as well as immediacy and interactive skills. Also included were comments referring to the TA's perceived level of flexibility. Typical behaviors in this category were: stating she wants to get to know students in the class, giving a personal anecdote about her apartment not being ready yet, using a stern tone of voice, and stating that she will give a student a higher grade if they are on the borderline but have been showing up regularly for class.

The fourth category, General Affective Reactions, was developed to include global affective reactions of character, personality and competence. Comments that were coded under this category included: mentioning she has taught for about four years, and explaining he has taught a similar math course before.

The fifth category, Ambiguous Regarding Inference, was not included in this part of the analysis. The category served as a way for the researcher to code ambiguous student responses in previous portions of this study. Since the researcher was coding the data set, there was no need for a category that was not definitive.

Results

Research Question Two sought to find out if an experienced teacher trainer will uncover the same differences between the teaching effectiveness skills of the most and least effective instructors that a group of students noted. The researcher's 624 comments regarding the audio tapes were tallied for frequency, sorted as either positive or negative, and then sorted into meaningful categories. Overall, the researcher tended to provide more comments for the 6 most effective TAs (345) than for the 6 least effective TAs (279). Of the 624 comments, more positive responses were recorded overall (550) than negative responses (74). The data were divided into two segments for further analysis to better highlight the behavioral differences between the TAs. The first segment compared the most frequent categories of positive and negative comments regarding the six most effective TAs and the six least effective TAs. The second segment compared the categories of positive and negative comments of the single highest rated and the single lowest rated TA of the 12.

Most frequent categories of positive comments regarding most effective TAs

There were 323 positive comments regarding the most effective TAs. Of these, the most frequent main category commented on was Communicative Competence (47%, 153) (see Table 6). Concern for Students comments accounted for 45% (146) of the responses, Knowledge of Subject Matter comments accounted for 6% (20) of the responses, and General Affective Reactions accounted for 1% (4) of the responses.

Most frequent categories of positive comments regarding least effective TAs

There were 227 positive comments regarding the least effective TAs. Of these, the most frequent main category commented on was Communicative Competence (56%, 128) (see Table 6). Concern for Students comments accounted for 37% (85) of the responses, Knowledge of Subject Matter for 5% (11) of the responses, and General Affective Reactions for 1% (3) of the responses.

Most frequent categories of negative comments regarding most effective TAs

There were 22 negative comments regarding the most effective TAs. Of these, the most frequent main category commented on was Communicative Competence (77%, 17) (see Table 7). Concern for Students comments accounted for 23% (5) of the responses. There were no negative comments for most effective TAs listed under the Knowledge of Subject Matter or General Affective Reactions categories.

Most frequent categories of negative comments regarding least effective TAs

There were 52 negative comments regarding the least effective TAs. Of these, the most frequent main category commented on was Communicative Competence (90%, 47) (see Table 7). Concern for Students accounted for 10% (5) of the responses. There were no negative comments for least effective TAs listed under the Knowledge of Subject Matter or General Affective Reaction categories.

Comparison of categories of positive comments of the single highest and single lowest rated TAs

The single highest rated TA received 68 positive comments (see Table 8). Of these 68 comments, 47% (32) were Concern for Student comments and 44% (30) were Communicative Competence comments. The remainder of the comments were focused on Knowledge of Subject Matter (7%, 5) and General Affective Reactions (1%, 1).

The single lowest rated TA received 39 positive comments (see Table 8). The majority of these comments fell under the Communicative Competence (74%, 29) category. An additional 18% (7) of the responses were related to Concern for Students and an additional 8% (3) of the responses were related to Knowledge of Subject Matter. There were no positive comments for this TA under the category of General Affective Reactions.

Comparison of categories of negative comments of the single highest and single lowest rated TAs

The single highest rated TA received four negative comments (see Table 9). All four comments were related to Communicative Competence. There were no negative comments for this TA under the categories of Concern for Students, Knowledge of Subject Matter, or General Affective Reactions.

The single lowest rated TA received 15 negative comments (see Table 9). Of these 15 comments, 93% (14) fell under the Communicative Competence category and 7% (1) fell under the Concern for Students category. There were no negative comments for this TA under the categories of Knowledge of Subject Matter or General Affective Reactions.

Discussion

To expand on the student analysis of the audio tapes (detailed in Part I), an analysis of the audio tapes of the most and least effective TAs was undertaken by a professional with a background in instructional methods, the researcher. The researcher noted instructor's behaviors on the audio tapes and then rated and categorized the comments in the same manner as the students in Part I did.

The researcher, working individually, made a total of 624 comments regarding the 12 TAs, which is

approximately 40% more than the total comments of all 20 of the participants in the Part I analysis.

There are several possible explanations for the fact that the researcher not only noted more behaviors, but more positive behaviors. First, the researcher, as an instructional communication specialist, is trained to notice more detail in classroom behavior than a student would. For example, a student may comment that an instructor seems organized. An instructional trainer would, however, not provide such a global comment and instead break organizational behavior down into smaller units by individually noting techniques such as advance organizers and use of transitional devices. Positive behaviors such as previewing upcoming topics for the class period may go unnoticed by students since they are relatively common behaviors and would not stand out to them. It also may be that negative behaviors really stood out more for the students and colored their overall impression, leading to low ratings for the least effective TAs.

Also, since the researcher was attempting to note all clearly identifiable behaviors, not just the ones that generated the strongest impressions, there is a need to consider the "degree of effectiveness" of specific instructional forms. The analysis of the data for this segment of the project suggests some complex issues in terms of categorizing and rating instructor's behaviors. For example, pedagogically, it is considered helpful to include a clear example for students when defining a concept or presenting a formula, but it may be important to evaluate the quality of the illustration. As is apparent in the results listed above, both the most and least effective TAs received many positive comments regarding their ability to communicate well by adapting to students' knowledge level through use of examples. Even the least effective instructors gave many examples (often directly from the text, in the case of mathematics classes) and those examples certainly would help a student learn the material better than if the examples were not used. However, some of the TAs rated most effective not only gave examples, but did not rely on the text for examples and instead gave well-reasoned examples that often related directly to that group of students or the campus.

Also, more effective TAs often gave richer, more interesting illustrations. For instance, it was common for economics TAs to mention product testing as a use for statistical research. However, one TA gave a particularly interesting and lively example about visiting a city and being part of the test audience for a Miller beer product. He then joked that since he grew up in Milwaukee, he knew the new type of beer being tested was not going to work. This example was clear, relevant, and also humorous. However, when coding an example as positive, negative, or ambiguous, if the example was clear, relevant to the topic, and assisted in learning, it was considered positive. But

based on the product testing example, above, one can see that there are varying degrees of effectiveness within the types of behaviors that could be considered as positive.

The six most effective TAs received 323 positive researcher comments. Almost half (153) of those comments were related to Communicative Competence and the remainder (146) of the positive comments were related to Concern for Students[4]. The most effective TAs also received 22 negative comments. Approximately three-fourths (17) of those comments were related to Communicative Competence and the remainder (5) of the negative comments were related to Concern for Students.

The six least effective TAs received 227 positive researcher comments. More than half (128) of those comments were related to Communicative Competence and the remainder (85) of the comments were related to Concern for Students. The least effective TAs also received 52 negative comments. The vast majority (47) of those comments were related to Communicative Competence and the remainder (5) of the negative comments were related to Concern for Students.

These results amplify the results of Part I, where lack of Communicative Competence played a strong role in negative evaluation. The researcher's analysis produces even stronger evidence that poor communication skills leave a strong negative impact.

Poor Communicative Competence extends well beyond the issue of the accented speech of the non-native English speakers that students found challenging to cope with. (It is important to note that only three of the six least effective TAs highlighted in this chapter spoke with an accent and one of the six most effective TAs did speak with an accent.) For example, one of the least effective economics TAs showed a lack of organization when she made confusing statements when explaining how course grades would be calculated. One of the least effective community health TAs did not have a midterm date scheduled yet and was unable to tell students where that exam would fit on the course schedule. One of the least effective mathematics TAs demonstrated a lack of organization when working on a problem at the board when he said, "You will pick up graphing as you go...no, let me just do a little bit of graphing."

As in Part I, a direct comparison of the single highest rated and single lowest rated of the 12 TAs was conducted by the researcher. As both of these selected TAs were teaching the same type of mathematics class, the comparison is useful.

The single highest rated TA received 68 positive researcher comments. Almost half (32) of those comments

were related to Concern for Students and the remainder (30) of the comments were related to Communicative Competence. The single highest rated TA also received four negative comments. All four of those comments were related to Communicative Competence.

The single lowest rated TA received 39 positive researcher generated comments. Almost three-fourths (29) of those comments were related to Communicative Competence and the remainder (7) of the comments were related to Concern for Students. The single lowest rated TA also received 15 negative comments. Almost all (14) of those comments were related to Communicative Competence and only one of the negative comments was related to Concern for Students.

There was one negative Concern for Students comment received by the single lowest rated TA: "Appears to be asking students to respond to a question, but the question winds up as a rhetorical question. This would be misleading as he started out appearing to want student interaction, but then switched gears so that student interaction would be downplayed."

As the above demonstrates, Communicative Competence is an important element in creating a positive impression with students for both the single highest and single lowest rated TAs. However, the single highest rated TA also exhibited more behaviors related to Concern for Students than the single lowest rated TA did. Positive Concern for Students may be particularly important in this type of mathematics course since it caters to students who are not enrolled in numbers-intensive majors. An instructor's ability to demonstrate Concern for Students may help put some of the more reticent students at ease.

In this comparison of the single highest and single lowest rated TAs, it appears Communicative Competence is a key element in creating a negative impression on the first day of class, particularly for the single lowest rated TA. The vast majority of negative comments related to this TA are connected to poor communicative skills. Despite the positive comments this TA received under Communicative Competence, the negative Communicative Competence comments tend to outweigh the effective behaviors he is demonstrating in the classroom.

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Notes

[1]It is interesting to note that although participants were listening to audio tapes, at times they made comments about an instructor's nonverbal communication behavior. It may be that as participants were listening to the tapes they were visualizing the classroom and made assumptions about nonverbal behaviors they were not able to actually see. In some instances they would have been able to infer unseen nonverbal behaviors. For example, if the sound of chalk on the blackboard was audible, and the instructor was talking about an example, it is reasonable for participants to image the instructor was writing on the blackboard to elaborate on the example.

[2]In this discussion, only the main categories of Communicative Competence and Concern for Students will be addressed as the percentage of comments sorted under the categories of Knowledge of Subject Matter, General Affective Reactions, and Ambiguous Regarding Inference were minimal.

[3]It should be noted that the researcher did attend many, but not all, of the first day sessions while collecting data for this project. Therefore, the researcher was present and had some personal recollection of some of the class sessions analyzed.

[4]In this discussion, only the main categories of Communicative Competence, Concern for Students, and Knowledge of Subject Matter will be addressed as the percentage of comments sorted under the category of General Affective Reactions was minimal. The category of Ambiguous Regarding Inference was not utilized for this portion of the study.

Table 1

Instructor Characteristics and Means of Overall Teaching Effectiveness for Highest and Lowest Rated Sections

Highest				Lowest			
Gender	Accent	M	SD	Gender	Accent	M	SD
			Community health				
M	N	4.15	.46	F	N	3.76	.54
F	N	4.06	.42	F	N	3.35	.81
			Economics				
M	N	3.86	.44	F	N	3.35	.63
F	A	3.62	.68	M	A	3.31	.62
			Mathematics				
F	N	4.15	.67	M	A	2.57	.83
M	N	4.03	.47	M	A	2.41	.73

Note. F designates female TA, M designates male TA, A designates accented speech, and N designates nonaccented speech. Effectiveness scores ranged from 2.41 to 4.15.

Table 2

Frequency of Positive Behaviors of Six Most Effective and Six Least Effective Instructors as Rated by Students

Category	Most Effective Instructors	Least Effective Instructors
Concern for Students	122	65
Communicative Competence	68	29
Knowledge of Subject Matter	5	1
General Affective Reactions	0	0
Ambiguous Regarding Inference	0	0
Total	**195**	**95**

Table 3

Frequency of Negative Behaviors of Six Most Effective and Six Least Effective Instructors as Rated by Students

Category	Most Effective Instructors	Least Effective Instructors
Concern for Students	25	20
Communicative Competence	48	60
Knowledge of Subject Matter	0	0
General Affective Reactions	3	1
Ambiguous Regarding Inference	1	0
Total	**77**	**81**

Table 4

Frequency of Positive Behaviors of Single Highest Rated and Single Lowest Rated Instructor as Rated by Students

Category	Highest Rated Instructor	Lowest Rated Instructor
Concern for Students	33	7
Communicative Competence	13	7
Knowledge of Subject Matter	0	1
General Affective Reactions	0	0
Ambiguous Regarding Inference	0	0
Total	**46**	**15**

Table 5

Frequency of Negative Behaviors of Single Highest Rated and Single Lowest Rated Instructor as Rated by Students

Category	Highest Rated Instructor	Lowest Rated Instructor
Concern for Students	1	2
Communicative Competence	5	11
Knowledge of Subject Matter	0	0
General Affective Reactions	0	0
Ambiguous Regarding Inference	0	0
Total	**6**	**13**

Table 6

Frequency of Positive Behaviors of Six Most Effective and Six Least Effective Instructors as Rated by the Researcher

Category	Most Effective Instructors	Least Effective Instructors
Concern for Students	146	85
Communicative Competence	153	128
Knowledge of Subject Matter	20	11
General Affective Reactions	4	3
Total	**323**	**227**

Table 7

Frequency of Negative Behaviors of Six Most Effective and Six Least Effective Instructors as Rated by the Researcher

Category	Most Effective Instructors	Least Effective Instructors
Concern for Students	5	5
Communicative Competence	17	47
Knowledge of Subject Matter	0	0
General Affective Reactions	0	0
Total	**22**	**52**

Table 8

Frequency of Positive Behaviors of Single Highest Rated and Single Lowest Rated Instructor as Rated by the Researcher

Category	Highest Rated Instructor	Lowest Rated Instructor
Concern for Students	32	7
Communicative Competence	30	29
Knowledge of Subject Matter	5	3
General Affective Reactions	1	0
Total	**68**	**39**

Table 9

Frequency of Negative Behaviors of Single Highest Rated and Single Lowest Rated Instructor as Rated by the Researcher

Category	Highest Rated Instructor	Lowest Rated Instructor
Concern for Students	0	1
Communicative Competence	4	14
Knowledge of Subject Matter	0	0
General Affective Reactions	0	0
Total	**4**	**15**

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